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THE VETERINARY PROFESSION AFTER THE WAR.

Prof. Share Jones' address to the North Midland V.M.A. on another page is full of interest, and will be widely discussed in the profession. In one sense, it requires more consideration and discussion than some readers are likely to give it; for the bulk of it, to be judged aright, must be looked at from points of view different to any taken up by the speaker. The address is essentially a plea for more University centres for veterinary education—whether as supplementary to, or as substitutes for our already existing schools, is not quite clear. A number of very important subjects are brought in and used as arguments to this end; but unfortunately they are used only as arguments, while some of their phases and equally important arguments on the other side, are unmentioned. The result is that, while the address contains much truth, it also contains much that will be entirely misleading, unless carefully examined.

Let us take a minor point as an example of the speaker's methods. Prof. Share-Jones proved clearly that some foreign countries, among which he particularly mentioned Sweden, have larger annual increments of veterinary surgeons in proportion to their populations than we have; and he appeared to think that he had proved also from this that this Kingdom makes insufficient use of veterinary surgeons. But the area of Sweden is not very much less than half as much again that of the whole United Kingdom, while its population is very much smaller—not quite one-eighth. Again, more than half the Swedish population are dependent upon agriculture and its associated callings. This indicates that comparatively more veterinary work has to be done, and greater distances must be travelled to do it in Sweden than here. Obviously such a country needs a larger proportion of veterinary surgeons in its population than we do. Many conditions have to be taken into account in estimating the veterinary strength of any country; the numerical proportion of its veterinary element alone is a wholly insufficient criterion, and yet Prof. Share-Jones uses it as the foundation of an argument.

Milk and meat figure largely in the address; and here Prof. Share-Jones said much with which all will agree. That the whole question will increase in importance, and will supply much more work for veterinary surgeons than it ever has done before, is incontestable. But, admitting all that, we have not yet proved that our present numbers will fall short of the new requirements. For one thing, a comparatively small number of men can do a vast amount of work in all matters pertaining to milk and meat. For another, the profession was generally held to be overcrowded before the war, and it is certain that some of its old spheres of work will be lessened after it. Equine practice will probably never again be what it was even three years ago. Canine practice, too, will be at a discount for some years at least; and thus more hands will be left free to deal with milk and meat. The question of the supply of and demand for veterinary surgeons is a complex one, and requires to be considered comprehensively.

For some time after the war veterinary surgeons will not be in much demand except in their economic capacity; and Prof. Share-Jones curiously ignores the all-important fact that the economic functions of the profession will never employ more than a comparatively limited number of men. The major part of even the great industries that concern us most—such as milk and meat—really does not concern us at all. Overlooking all this, Prof. Share-Jones appears to think that this kingdom will support as many veterinary schools as can be established in it, and as many graduates as can be induced to pass through them. Therefore he proposes to besprinkle the country with new veterinary schools—all, of course, attached to or buried in Universities. But why does he not look abroad? Except Italy, we know no country in Europe with more veterinary schools than we have already, or even with so many—how many more does the professor expect us to have? France and Germany have led veterinary science for generations; but neither has five schools, though Germany's population is much larger than ours. Their plan is to have a few strong schools, rather than many tiny ones; and that, in a profession such as ours, is incomparably the best. Students of a little school submerged in a University might receive excellent tuition in the preliminary scientific subjects which are common ground to other professions. But in the senior subjects of a profession so special as ours, would they obtain training even comparable to that of a large and strictly veterinary school and clinique, such as the Alfort one?

Much more could be written of this interesting address, did space permit. We have merely indicated a few of its weak points in order to illustrate the essential weakness of the whole. In reality it is a piece of special pleading—one-sided and short-sighted, as such productions usually are—advocating a line of action that is questionable in the extreme. It is more than doubtful whether Universities really are the best places for veterinary thition; it is certain that we need no new small veterinary schools. There is likely to be a shortage of veterinary surgeons a few years hence—not just yet, for Prof. Share-Jones magnifies the present slight decline—but the causes and the remedy are other than those which he indicates.

INTERDIGITAL MELANOTIC TUMOUR.

The subject was a black spaniel about three or four years old which had a few interdigital abscesses and which was supposed to be developing another one, as indicated by constantly licking one of his paws.

On examination there was found to be a swelling between two of the toes of the left fore foot which extended down to the solar surface, the latter portion resembling a miniature pad, and separated from the proper pad by a shallow groove. Pressure on the part caused slight pain, and the appearance of the upper end rather indicated a commencing abscess, but the dog was not lame.

Apparently there was some foreign body present in the centre of the part, so cocaine was injected and the swelling incised for a good two-thirds of the depth. Instead of any foreign body being exposed, there was presented a lobulated little tumour, as black as Indian ink. Some of it was scraped away by means of a Volkmann's spoon, but it was very adherent to the surrounding structures, and partook of the nature of a fibromatous tumour having many ramifications.

The condition was at this stage reported to the owner who, as the dog was not lame, decided not to have the tumour removed.

The case exemplifies the ease with which one may be misled. I felt certain of finding an awn of a grass or one of those egg-shaped nodules common to these interdigital abscesses.

HENRY TAYLOR, F.R.C.V.S.

Hayward's Heath

INTUSSUSCEPTION OF SMALL COLON IN THE HORSE.

Subject, a bay cart mare, 16-2 h.h., about 15 cwt., six years of age; had been in town work since September, 1915. Never showed any ailment, a good worker and feeder, the property of a firm of contractors and hauliers. In her usual work she was with another horse in a double-shafted trolley, drawing flour, about two-and-a-half tons to the load independent of the trolley.

The mare was taken ill in work about two-and-a-half miles from her stable. This she showed by trying to lie down. She was kept up, and after taking off the load, the driver took both horses to the stable. The one horse, a good walker, kept the pace up, the mare halting at times and trying to lie down. She reached the stable about 12.30 p.m., was given, at intervals of an hour, two colic drinks, and appeared easier; but after a time the pain came on again, and she was taken to the Infirmary.

After examination, the prognosis was unfavourable. Morphia injected. Examined per rectum. Ammon. carb. and Tinct. nucis vom. given in a draught. Torsion of the intestines diagnosed.

When exploration is resorted to, the patient usually shows great pain with straining. This and the small quantities of fæces passed only represent that posterior to the torsion the peristaltic action persists. There is no proper evacuation. This is misleading; and because the animal has passed fæces and has also micturated, the case is not called one of "stoppage," but it is one, and of the most dangerous kind.

The mare kept quiet the greater part of the night. She did not show the symptoms usual in either torsion or rupture. There was no flatulence, and no need to use the trocar and canula. About 9 a.m. the next morning she became rapidly worse and died at 12 noon,

I made the post-mortem examination, and found about eight feet of the small colon invaginated. It required strong traction to withdraw it. The whole lumen of the tube was occluded, the intestine very dark red, almost black in colour, The contents of the intestine were of a watery consistence, containing blood and what looked like pus.

The lesion was on the left or near side. It may have been the result of a blow or kick received externally: it is, of course, impossible to ascertain the cause. That portion of the intestine invaginated was twisted—as if it had been screwed before entering the outside portion, as a cloth would be twisted in cleaning a tumbler.

I invariably make a post-mortem examination when opportunity offers. We have an excellent place here, provided by the Corporation, with every convenience, and it is of great assistance in an enquiry of this kind. We have not to go eight or ten miles to the local kennels to perform an autopsy.

I have made a great many post-mortem examinations during the past thirty years: but have not had a case of intussusception of the small colon prior to this, hence I record it. I had diagnosed twist or rupture of the intestine. I did not diagnose intussusception. How could I? What is there to indicate it? How can anyone with any degree of certainty differentiate between intussusception, torsion, enteritis, intestinal rupture, calculus in the canal, or rupture of the diaphragm? In enteritis alone there is, just prior to death, that constant walking around the box and profuse perspiration. And, if one could diagnose, of what use is it? How can relief be best afforded?

The loss from abdominal trouble in the cart horse is a great factor militating against the use of the heavy draught horse for work. What can be done to prevent it? one almost asks in despair. I am of opinion that, with the constant use of dry food, as usually resorted to, and the entire absence of earth in the food alkaline, there is a tendency to attenuation of the walls of the intestines and consequently less resistance to strain. Also, the horses do not have water often enough. When called to a case of colic, we constantly hear the remark by the driver, "I have not given the horse any water, so it can't be that is the cause." No; the animal must drink from a trough when it has the chance, and unless it returns to the stable for the mid-day meal, the opportunity afforded is very irregular. Cold water as cold water never hurts. It is only when excess of it is taken, the weight is the cause of the trouble

It is, I believe, possible for the blood vessels of the intestines to contain nearly the whole of the blood in the body, and the drawn-out, strained intestine being unable to contract properly, this injury to living tissue leads on to inflammatory action.

P. G. Bond.

December, 1916.

VACU-THERMO BELT (Malloch).

Many of us in daily practice meet with cases where tuberculosis is suspected, but, owing to the time and trouble in applying the "tuberculin" test, we content ourselves by basing an opinion on a clinical examination only.

With a view to economise time and get accurate results, I have designed the above appliance. Its utility has been demonstrated by several members of the profession who do a large amount of testing, as well as by myself. It has been pronounced by them to be the most useful appliance that has come before the profession.

The appliance consists of a built-up pad, which carries a guaranteed clinical thermometer surrounded on three sides by a vacuum, which conserves the surface heat. The pad is held in contact with the body by means of four spiral springs attached to a belt which is passed round the body behind the elbows. The pad can be placed on either side of the spine, and is always in close contact with the skin, no matter what position the animal assumes. The belt can be altered to fit an animal of any size. The thermometer can be examined at any time without disturbing the pad or belt.

To apply the test, the following is the mode of procedure. Inject tuberculin: set the thermometer, place it in the cradle in the pad, put the belt round the body and fasten it so that the pad rests on the ribs near the spine. Return in 18 or 24 hours, or arrange to have the appliance removed and placed aside for your inspection of the thermometer.

Thus, time, trouble and expense is saved, and a reliable test obtained on which you can with confidence base an opinion.

The original tests were carried out in each case with two reliable thermometers registering exactly alike to 1/20th of a degree: the rectal and pad temperatures being compared in all cases at the 12th, 15th, 18th and 24th hours, and they came out absolutely alike.

A good few of these appliances are now in the hands of the profession, so far with no complaints, but on the other hand with some pleasing testimony as to their usefulness. The appliance is fitted into a neat case and can be carried in the pocket.

R. M. Malloch, M.R.C.V.S.

Kirkby Stephen.

NORTH MIDLAND VETERINARY ASSOCIATION.

[National V.M.A.—Northern Branch.]

The quarterly meeting was held in the Grand Hotel, Sheffield, on October 17th. Present:—Messrs. T. C. Fletcher (President), H. Thompson (Hon. Treas.), J. S. Lloyd (Hon. Sec.), W. Collinson, E. Marrison, W. Murgatroyd, S. H Nixon, M. Robinson, and S. E. Sampson. Prof. Share-Jones, Liverpool, and Mr. W. Sturdy, Sheffield, were also present as visitors.

The minutes of the last quarterly meeting having been printed and published, were taken as read, and on the proposition of Mr. Robinson, seconded by Mr. Sampson, were confirmed.

The minutes of the two Council meetings held on June 20th and October 3rd respectively, were read by the Hon. Secretary, and on the motion of Mr. Robinson, seconded by Mr. Fletcher, were confirmed.

In order to meet the convenience of Prof. Share-Jones, who had to leave early to attend another meeting, the President called upon him to deliver his address.

THE VETERINARY PROFESSION AFTER THE WAR.

By J. Share-Jones, D.V.Sc., M.Sc., F.R.C.V.S., University of Liverpool.

When invited by your esteemed Secretary to give an address before your Association on some matter of public interest to us, I was confronted with the difficulty, not of finding something to say, but of making a selection of a few points which would bring the consideration of what I have to say within the limits of time at our disposal in an ordinary meeting. There are so many matters which affect our future and which require serious consideration, and they appear so vital to our interests, that I fear we shall be able here to-day only to touch the fringe of a few.

To my mind there never was a time when the future of the veterinary profession hung so delicately in the balance, and two or three false steps in one direction or the other might make all the difference between our profession taking a permanent place amongst the ranks of those other learned professions which have the inestimable support afforded by centuries of history and tradition behind them, and stepping back amongst those branches which are still struggling for public appreciation and recognition as professions.

Before the war, the position of the profession was such as to give rise to grave anxiety. The entries to it were not sufficient to maintain the average number on the Register. We were confronted with the extraordinary position of seeing more names removed from the Register by death than were placed on it by new diplomas. This could indicate nothing but a slipping back, for the strenght of any profession depends upon the amount of fresh blood passing into it annually. There are some who hold the view that the supply of men to the profession should be regulated with a kind of mathematical accuracy. I do not share this view; for if there is any iniquity associated with such an attempt is that it operates against progress. A healthy, virile profession progresses and expands by extending its sphere of usefulness to the public. This is so in regard to any learned profession which can be named with the solitary exception of our own.

Some time ago I had occasion to make investigations in various countries regarding the annual increment of qualified veterinary surgeons in proportion to the populace. The result was as follows:—

Denmark	1 in 133,000	Germany	1 in 210,000
U.S.A.	1 „ 120,000	France	1 „ 300,000

Sweden 1 in 275,000, making provision for 1 in 183,000

England 1 in 500,000

Now these figures are rather instructive. From them some interesting deductions can be drawn. They show that the British public do not make anything like the use of the veterinary profession as is made of it in other countries. When we find such a country as Sweden, with already a much higher increase relatively than our own, making provision for an increase of no less than 50 per cent. at a time when we are decreasing in numbers, it is time to take stock of our position. A pessimist will say that our policy is safe—it is in the interests of those who are already on the Register. But is it? If we examine the figures from another point of view we can draw from them another conclusion, and that is that there must be a vast quantity of work required from the profession in other countries which is either not done at all in this country, or is performed by bodies other than our profession.

If we inspect the problem we shall find that this is the case. Although we must admit that there are many unqualified persons tinkering with some branches—some even in official positions and remunerated out of the public funds—we also know that there are great branches the care of which should naturally fall to the veterinary surgeon, but which remain practically untouched. Obviously we could not discuss all here, but I propose to mention two or three.

One could not well avoid a discussion on the meat and milk industries to-day, so prominently are they before the public. It would be a wicked business to suggest that any real good could accompany such a diabolical thing as war, but we must be forced to agree that it quickens the thought of even such a lethargic nation as our own, and urges a nation to take cognisance of its real needs. It is in this respect pleasing to us who have long appreciated it to observe the way in which these two great industries have with dramatic suddenness assumed such national importance. I have always held a high opinion of the position of the milk industry in our national life, but I must confess to some little surprise when I read in a leader in one of our great lay papers the other day that "next to winning the war, this question of obtaining a plentiful supply of cheap *pure* milk is *the greatest* of the day." But there it is; that is where the barometer of public opinion now stands.

Like all other professions, we are here in the public interest first, in our own second. How can we serve the nation in this—one of her greatest needs and difficulties? Are we ready for a grave emergency such as this? I certainly think we are not. Our man power before the war was too feeble to enable the authorities to put a Milk Bill for England and Wales into operation.

In parenthesis—I do not know who is responsible for advising the Government of the day in a matter of this kind, but I called attention at the time in one of our professional journals to fundamental differences between the Bill for Scotland and that for England and Wales. Now these Bills are supposed to perform the same function. Can anyone tell me what circumstances there are peculiar to the problem in England and Wales which justify differential treatment as between these two countries and Scotland? Yet the Bill for Scotland was by common consent voted excellent. What is excellent for Scotland will do equally well for England and Wales. There is no doubt in my mind which of these two Bills will utilise the services of our profession to the greater advantage both of the public and ourselves. I commend these Bills to your careful consideration. There are gentlemen present who are intimately concerned. An analysis of the Bills will prove more than useful, and there might yet be time to make representation to the proper quarter through your Members of Parliament.

There are branches of the industry which fall to the Medical Officer of Health. With him we wish to work in complete harmony—it is to the advantage of both. But the care of the cow, both in health and disease, her breeding, feeding and management are our charge. It is for us to be prepared to take it.

Then there is the question of organisation of the control of our meat supply. To some of us this question is a perennial one, and the apathy in the past of the British nation to both the meat and milk industries has been a thing which we have not been able to comprehend. But the present rise in price has given more publicity to the question than all our sanitary and professional congresses combined. The British workman is now alive to the fact that the production and distribution of meat is a matter which concerns him—it is not a matter of interest only to the farmer and butcher. A few days ago one of our biggest Miners' Associations passed a resolution urging that greater educational facilities should be provided for evolving methods of dealing with this problem. An action such as this would have been almost unthinkable but a short time ago. But it indicates the public attitude. Surely the time is ripe for us to step right in and take the initiative in formulating a national scheme, not only for the inspection of meat, but also for securing an increased home production. It is apparent from evidence on all hands that strenuous efforts will be made to increase our home products and render us less dependent upon other countries for supplies. As evidence of the possibilities here it is interesting to note that the products of the pig and fowl alone imported into this country in 1915 represented a sum of almost forty million sterling (£40,000,000) We hear much of the application of science to industry. The period following the war will mark an epoch in the history of applied science. There is already a clamour for it on every hand. With the exception of chemistry, I know of no branch of science the close application of which to industry presents greater possibilities of fruitful results than our own.

I understand from a reliable authority that there are not fifty veterinary surgeons in the British Isles exclusively engaged in public health work. We are all acquainted with the reproach of Ostertag, who states that "A general regulation of meat inspection existed outside Germany, in Belgium, France, Holland, Spain, Italy, Austria-Hungary, Rumania and Switzerland," but that "other countries, as for instance, England, which is otherwise so well organised with regard to public sanitation, and which is called the cradle of hygiene—are entirely without a regulated meat inspection."

In Germany, meat inspection is regulated by an Imperial Law, and 1180 veterinary surgeons are employed—a third of the total number on our Register, representing the whole of the veterinary service in England, Wales, Scotland, Ireland, etc.

The United States has a general organised system which was authorised by an Act of Congress in June, 1906, and 775 veterinary inspectors employed.

In France the work is well advanced, and in the Department of the Seine alone 67 veterinary surgeons were exclusivly employed in connection with the meat industry. Prior to the war these figures were considerably increased.

During the last two or three years there has been a tendency in this country to do a little dabbling with live stock insurance. Here again there is a lamentable lack of anything approaching a national scheme. To those who are interested I would commend the masterly speech delivered on the subject by Mr. E. T. John, M.P.,

at Liverpool in 1912. The uncertainties of weather constitute always in this country a great and grave factor to the agriculturist, but there is one risk—that of disease and its attendant losses—which might easily be minimised.

The attention given to this matter in other countries is very striking. In Belgium there were in 1907 no less than 1734 societies, of which 1073 insured cattle exclusively. Mr. Seebohm Rowntree declares the Belgian system to be both cheap and safe, as the great majority of small local societies reinsure a portion of their risks in Federal Insurance Societies which are subsidised by the Government.

In Holland there were in 1906 1236 societies with a membership of 111,458 persons, and insuring in all 345,371 animals, the percentage lost being—in horses 3 per cent., cattle 1.9 per cent., pigs 6 per cent., sheep and goats 7.7 per cent.

In France the Department of Agriculture has, since 1898, contributed an annual grant of from £20,000 to £30,000 in aid of Agricultural Mutual Insurance. The societies have increased in 12 years from 1469 in number to 8780, in membership from 87,072 to 478,000, and in capital insured from £2,366,000 to £29,000,000. The annual premium is 1 per cent. of the value insured and the compensation paid 80 per cent.

In Switzerland some of the Cantons and the Federal Government contributed substantially in 1906, the amount being £24,510, the number of cattle insured was 547,518, the compensation paid on account of 14,285 animals amounted to £78,712.

In Germany the principle of live stock insurance has been most extensively devolved, the small mutual societies there number over 7000. In fact I understand that practically every country in Europe has developed some gendral system of mutual insurance of live stock. The principle of averaging the risks is as desirable in agriculture as in any other business—the loss may be to the individual crushing, but to the aggregate industry quite inconsiderable.

Mr. John states that it had occurred to him that "if on reasonable terms veterinary surgeons would undertake to periodically inspect and certify the stock upon farms, and in some measure reassure insurance companies as to the care and intelligence of the farmer himself, insurance might be greatly cheapened, and to this extent the precariousness of the business distinctly lessened. It seemed to him that in this direction there was room for increased usefulness on the part of our profession, which he was satisfied was likely to play a part of increasing importance in the general economics of agriculture."

It has often occurred to me that a general system of insurance, as advocated by Mr. John, could, through the periodical veterinary inspection and report both on owner and stock which are involved, easily prove one of the most powerful instruments in preventive medicine. What an opportunity it would provide for the veterinary profession to demonstrate its utility!

One could mention several other branches if time allowed, all going to prove that the great bulk of legitimate veterinary work in this country is left undone. Yet it would be difficult to over-estimate the economic value of an adequate veterinary service to agriculture as an industry, or of preventive medicine as a science.

There is no doubt about the public demand for the work. What agitates my mind is whether the public appreciates that the veterinary men are the men to do it. It rests largely with us to enlighten the public. I have often been struck by the astonishing ignorance both of the veterinary surgeon and his mission displayed even by public bodies. What is the reason for this? To my mind it is not far to seek. I am convinced that it lies in the system of education which has so largely prevailed in our profession since its inception—a system which has had for its main characteristic the isolation of us from other professions—a system which has ever directed us in a narrow groove from which our influence could not possibly permeate our surroundings to that degree which obtains in other professions. The profession's policy has served its purpose in the past, I do not deny that; but during the last decade or so it has been disastrous. It has run us on the rocks, and there is no necessity for anyone to offer an apology for suggesting reforms.

Has it ever occurred to you to examine the great wave of educational reform which has passed over our country since 1903? That is not so long ago, but since that year we have seen established our splendid group of provincial Universities—Universities which would be the means of carrying educational facilities to the populous areas, Universities at Manchester, Liverpool, Sheffield, Leeds, Birmingham, Bristol. The Universities are the natural and accepted channels through which men pass into our various professions. It was found that distant Universities were an absolute bar to thousands of eligible men who would provide excellent material from which to recruit for the army of men in those occupations aptly termed brain-working. And these brain-workers constituted 11 per cent. of the male population in the area of one of these Universities. In the matriculation list we find side by side some of the most distinguished families in the land and sons of shopkeepers, teachers, artisans, and labourers. The Universities are local in character; they take the best brains in the areas which they serve and train them to serve their nation. From whatever social grade the students are drawn they are trained together and are "comrades in study and in sport." But the intending students must provide evidence of natural ability, and that evidence is secured through the matriculation examination. which is a common standard for all.

Millions of pounds have been secured to endow for all time subjects forming University departments, such as chemistry, physics, botany, zoology, physiology, entomology, bacteriology, protozoology, toxicology, etc. The endowments are there for all comers. You have them in Sheffield, Manchester, Liverpool, Leeds, Newcastle, Birmingham, and Bristol, and you find that from the University centres the influence of the various professions spreads throughout the area for which the University caters. Thus, not only is the *worth* of each profession popularised, but each is enabled to secure a fair proportion of the potential brain-workers.

Now contrast this with what went on in our profession for several decades. For a long period there was only one centre in the whole of England where a student could be trained for our profession. There was no centre in Ireland, neither was there one in Wales—and Wales is still without one. Throughout this period Scotland had two, and for some time three, centres. It is not surprising that Scotland knows much more about the veterinary surgeon and his work than the other parts of the British Isles. The result is seen in the greater use which she is prepared to make of the profession in her Milk Bill, and it is seen in various other directions. But what has been the effect on the profession in England, Wales, and Ireland? It has been that we have never appealed to the general public. You will find that throughout the period referred to few entered our profession who were not connected with it in some way through relatives or friends. Speaking broadly, we have not been regarded as part of that great brain-working section of the community, and our field for recruiting our strength has been a distinctly limited one. Let us take for example the case of a clever boy in the South West, in the Midlands, or in the areas of Sheffield, Leeds, or Newcastle. He has passed his matriculation examination, and is eligible to enter any profession. Is he likely to pass Bristol or Cardiff, Bir-

mingham, Leeds, Sheffield, or Newcastle, and go to London or Liverpool to become a veterinary surgeon when he can be trained for any of the other professions practically at his doorstep? It would cost such a boy's father about £200 more to put him in the veterinary profession than into the medical profession. And that £200 would not pass into those channels in which it would benefit veterinary education, but into the pockets of landladies and railway companies, where the bulk of the money subscribed to secure veterinary training in the past has gone. It is not reasonable to expect such a boy to go to London or Liverpool, and as a matter of fact he does not go, but enters one or other of the various professions for entry to which provision is made at his local University. What would have been a valuable asset is thus lost, and goes to strengthen some other branch. There is a great principle underlying this, the principle which has led to this enormous provincial upheaval, but it is a principle which Scotland has for centuries recognised in most branches.

What have been our methods? We have for some years appreciated the fact that our strength is diminishing. Our method has been to restrict the facilities for highly intellectual students, men whom any profession is glad to get, to join our ranks, and we keep the standard of our preliminary examination lower than that which is demanded to enter other professions. The only possible result will be that we shall obtain (I am speaking generally) those men with money who cannot get into other professions. A profession which is satisfied to continue on this line can only decay.

The war, as I have said, has quickened the thought of the nation. A solid educational system is recognised as essential to the nation in the keen competition for supremacy which will follow the war. At the present moment a Royal Commission is sitting on one of our big Universities, and will direct such alterations and improvements as will be considered advisable to meet the requirements of to-day. The University will accept its suggestions without the slightest demur. Another University is in process of reconstruction.

All are alive to the changed conditions which prevail now as against even twenty years ago. They are getting ready to meet any fresh demands after the war. Are we satisfied to go on and on in the same channel which we entered in 1844? or are we sufficiently alert to recognise the advantage of being part of the huge educational structure which is now in process of erection? To my mind our salvation lies in our securing a fair share of what have been termed the best brains in the country, and to do this the facilities for entry should at least bear reasonable comparison with those for entry into any other branch. A centre for veterinary education in Newcastle, or Leeds, or Sheffield, and another in one of the South Western Universities would do an enormous amount of good in popularising our work, would enable us to use existing endowments representing huge sums of money, and would make entry to the profession possible to a great population to which we at present remain an unknown quantity.

We can all rest assured that that there will be an application of science to industry after the war such as this country has never seen before. Two industries which will call the loudest are milk and meat—they are staple articles of food. An illustration of what applied science can do for industry which is of special interest to Yorkshire, so largely concerned in the manufacture of woollen goods, is the manner in which South Africa has dealt with her wool production. She set to work in 1910 to increase her export trade, and was so successful that whereas in 1910 she exported 121,668,034 lb., in 1912, two years later, it was 161,974,684 lb., an increase of 33 per cent. This was not due solely to the increase in the number of woolled sheep, but, according to the report, "to the larger quantity of wool produced per sheep," owing to the intelligent attention which the industry has received.

What science can do for wool it can do for those other products of domestic animals—milk and meat, if given the chance. The subjects of our curriculum should make us peculiarly qualified to render signal national service in the development of our milk and meat industries. The call will be a national one. It is for us, both in numbers and efficiency, to be ready to answer.

Discussion.

The President apologised for the small number attending the meeting. He said that the Professor's remarks regarding meat and milk were most interesting, the milk production especially. The meat inspection in Sheffield was chiefly done by the City Veterinary Inspectors, whereas milk production was more in the hands of the local veterinary surgeons. He (the President) was often called in to give advice as to udder disease and as to the feeding of dairy cattle. There was in these respects considerable difference between practice and theory, the former being more valuable when given by the older graduates. He was also particularly interested in the Professor's remarks upon cow clubs and cattle insurance. He thought the latter was a matter requiring further consideration.

Mr. Robinson thanked the lecturer for his able paper, and wished the educational standard of veterinary students kept up. He thought it would be a distinct advantage if this were done.

Mr. Sampson remarked upon the large sale of patent medicine supplied by medicine vendors for the treatment of epidemic diseases. He would like to see a staff of veterinary officers as administrators of the Acts and Orders relating to Contagious Diseases of Animals. He thought if such officers were appointed for Counties or other large districts they could also supply local private practitioners with sera and vaccines. He was against private practitioners taking public appointments, as such appointments gave the holders an unfair advantage over their fellow-practitioners. There would be doubtless other ways in which full-time officers could assist local practitioners in saving animal life and increasing the public wealth. He had no doubt that there were fields for expansion and improvement in connection with central and civic veterinary inspection. He was afraid that after the war a large number of men now filling the ranks of the A.V.C. would be "quacks" in the treatment of animal diseases, and he trusted that the Army Veterinary Surgeons would do as much as they possibly could to discourage any steps in this direction. The monetary assistance now given to the Royal College of Veterinary Surgeons should help to protect local practitioners against "quacks." He was satisfied that there is a great field for animal insurance if put under State control. Not only should veterinary examination of the animal to be insured be compulsory, but in the interest of the State they should be kept under veterinary observation after insurance. He was satisfied that some such increase of veterinary work was required to combat the losses resulting from motor traction.

Mr. Collinson stated that several pig clubs were in existence in his district. He acts as honorary veterinary surgeon to these clubs, and reports on the death of the insured pigs before payment is made. The members of such clubs pay him for any medicines prescribed for sick pigs. Two of the clubs are in a strong financial condition. He thanked the essayist for his interesting paper; he would like to mention the clause in the Maintenance of Live Stock Order in connection with the slaughter of pregnant animals. He would like an answer to the question: When is a cow obviously in calf?

Mr. LLOYD strongly advocated the appointment of whole-time veterinary surgeons to act as inspectors in the important industries of meat and milk production. He was satisfied that there would be more work for veterinary surgeons in connection with these industries, and consequently more veterinary inspectors would be required. They must remember that the law relating to milk dealt with diseases of cattle, and also with diseases capable of being transmitted by milk to human beings. He was satisfied that great assistance could be rendered to farmers in the matter of feeding animals if veterinary surgeons would take greater interest in feeding questions. As to milk production, he was at one with the essayist in stating that veterinary surgeons should do all they possibly could to increase the cattle population of the country. With regard to meat inspection, he thought the training now given to veterinary students was not sufficient. He thought the matter should be more specialised, and that the examiners appointed by the Royal College to conduct examinations in meat inspection should be practical meat inspectors. He regretted that a great deal of the work of meat inspection was in the hands of laymen. Many Continental countries, as the essayist had remarked, employed large numbers of veterinary surgeons as meat inspectors. One of our Colonies, which he thought the essayist had left out, which employed whole-time veterinary officers for this work was New Zealand.

In animal insurance with State assistance, he was of opinion that the money so spent would be of greater assistance than that spent in stamping out some of the animal diseases that were not communicable to man. State assistance, however, should not stop at assisting cow and pig clubs, but should be generously handed out to assist veterinary students with their education. He thought that bursaries ought to be at the disposal of clever but impecunious boys who desire to enter the veterinary profession, and he agreed with the essayist in the statement that facilities for at least a considerable part of the education of such boys should be available at Provincial Universities, provided such Universities could show they had the facilities for imparting the knowledge required to pass the examinations held by the Royal College of Veterinary Surgeons. Whilst he was strongly in favour of the one-portal system for veterinary graduates, he thought it would tend to increase their number if they could obtain a considerable part of their education, as the essayist remarked, "upon their own door steps." He was satisfied that there was a large field for veterinary surgeons in connection with preventive medicine in connection with animals if such work were given to veterinary surgeons.

He had great pleasure in proposing that the best thanks of the meeting be given to Prof. Share-Jones for coming to Sheffield and giving such an able and interesting address.

The PRESIDENT, in seconding the vote of thanks, questioned the power of veterinary associations. He would like to see a better attendance, more interest taken in veterinary matters; he thought in that manner the power of the associations would be greatly increased. Such associations, after full discussion, should instruct the Council of the Royal College of Veterinary Surgeons as to steps to be taken in matters interesting to the veterinary profession. In connection with Mr. Collinson's question, he thought it was more a question of the farmer than the butcher having guilty knowledge —that is, knowing whether an animal he was selling was pregnant or not. He was strongly in favour of specially educating veterinary students for official appointments, and thought gentlemen holding such appointments should not compete in private practice against local practitioners.

Prof. SHARE-JONES thanked the members for their vote of thanks, and said he wanted the public to be educated by veterinary surgeons as to the importance of veterinary surgeons to the public. This had been neglected in the past. Veterinary surgeons did not get elected on to public bodies as other professions are elected, and consequently the public bodies ignoring veterinary surgeons are not altogether to blame. Large payments would come out of State insurance for the veterinary work necessary, the same as regards inspection in connection with meat and milk. Work now not done will in the future be required, and payment for the same would be made. He strongly advocated the application of science to industry, and wanted the best boys to join the profession and not go into "Arts" alone. Many now went into the latter, and often for quite a small salary. He agreed with Mr. Sampson and others as to the appointment of whole-time local veterinary inspectors. He thought considerable State aid should be given to further veterinary education, and instanced the fact that Scotland now gets £30,000 per annum for the upkeep of Scottish Agricultural Colleges. He thought at the present time that production of meat was of more importance than inspection of meat, and he strongly advised veterinary surgeons to do all they could to assist farmers in this direction.

The members of the Association then adjourned for tea, on the invitation of the President, afterwards resuming the meeting for the usual business routine.

The question of granting donations to the Veterinary Benevolent Fund and the Anglo-Franco-Belgian Fund was postponed; at present the funds of the Association did not allow the granting of such donations. The Hon. Treasurer mentioned the fact that he had received subscriptions from seven members for the Royal College of Veterinary Surgeons, and it was suggested that this matter should be further considered at the next meeting.

ELECTION OF OFFICERS.

It was decided to accept the suggestion of the Council that the whole of the officers serving for 1916 should be re-elected for 1917. As one of the Auditors, Mr. A. D. Morgan, is on military service, on the suggestion of the President, Mr. E. Marrison was elected in his place.

The PRESIDENT brought forward, for consideration by the members, the danger incurred during night visits owing to the lighting restrictions. After some discussion, it was agreed that veterinary surgeons should refuse to answer night calls except in extremely urgent cases, and that stock-owners should take steps to have in readiness remedies for the treatment of ailing animals until their veterinary surgeons could attend.

A vote of thanks to the President for his services in the chair and his hospitality terminated the meeting.

J. S. LLOYD, Hon. Sec.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH.]

The quarterly meeting was held at the Grand Hotel Birmingham, on November 16th, Mr. John Malcolm, Birmingham, presiding. There were also present:—Major W. S. Carless, Worcester; Messrs. H. L. Pemberton, Bridgnorth; J. Young, H. Yeomans, S. Woodward, J. Cormack, Birmingham; J. Martin, Wellington; J. O. Powley, Sutton Coldfield; W. E. Ison, Atherstone; W. H. Brooke, Handsworth; H. B. Hiles. Worcester; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich.

Apologies for absence were received from: Prof. Mettam, Messrs. J. J. Burchnall, F. B. Taylor, D. Forwell, R. C. Trigger, F. V. Steward, E. Ringer, C. E. Dayus, R. L. Phillips, J. C. Deville, J. Martin, jun.,

J. R. Carless, G. T. Prickett, F. L. Gooch, H. S. Reynolds, T. Slipper, and others.

The minutes of the previous meeting were read and confirmed. as were the minutes of the Council, recommending that the next meeting of the Association be held at Birmingham, and that Mr. J. O. Powley, Veterinary Inspector of the Board of Agriculture, be asked to read a paper on Swine Fever. Mr. Powley kindly consented to do so.

SOME INTERESTING CASES.

Major CARLESS led off with a description of three cases which had lately come within his ken. He first produced the scapula of a six-year-old valuable gelding, suffering from fistulous withers. Anxious to cure the animal, he threw it three times and operated. Each operation healed, and appeared to be successful, but the trouble reappeared a fortnight later, and was as bad as ever. He had never seen such post-mortem results before.

Next, the bones of a Shire gelding with bad quittor. It came into hospital not very lame, but with a nasty quittor and a great deal of discharge. He operated on the patient standing, but it was not a success, and he then put the animal down. It was operated on three times, and the last time the patient became so lame that it was destroyed. The post-mortem result was interesting, because it showed the bony deposit that had accumulated. In operating for quittor, he made it a practice to cut down till he had removed a piece of green cartilage, without which he found a cure impossible. In private practice he used to apply all sorts of dressings, but in the military hospital where he at present was, he operated in the way he had indicated, and out of 40 cases he had cured 38. The bones produced were those of one of the two unsuccessful cases. He cut through the coronary band, and the only difficulty was that it took time for the hoof to get right again. The patient was generally all right in about three months. The results showed that it was a good treatment, and the dressing was next to nothing. He seldom used anything but boracic powder and iodoform. The great thing was to cut down to the diseased cartilage and remove.

The third specimen which Major Carless produced was of a similar character to the previous one, with the bony accumulation of about two months' growth.

UNDIAGNOSED.

Major CARLESS mentioned a puzzling case which was in his care at the present moment. It was that of a mare which was brought in lame on November 1st, and 16 days later, after passing nothing during the whole of this period, was still alive. A curious feature was that the mare ate and drank well, and would graze if turned out. Nor was there any violent pain. All sorts of things had been given to her—oil, aloes, and the usual colic drinks, and she had also had an injection two or three times a day, but to no purpose. One little lump was got from her which looked like clay, and this suggested that she had been eating clay. He had had a lot of cases of sand colic. This was not a twist or a calculus, because if so there would naturally be violent pain.

Mr. YEOMANS inquired if there was tympany. Major Carless: There was at times.

Mr. PEMBERTON said he once had a very similar case, and he made the mare gallop. She got better. He put it down to paralysis of the bowel.

The PRESIDENT also recalled a similar case. The client bedded with sawdust, and the horse took a liking to the sawdust and filled himself with it. Bowel action ceased, and after death the bowel was literally packed ith sawdust.

THE CURE OF CANKER.

Major CARLESS said he had lately had one or two cases of canker which he could not cure. He knew the President was an authority on that subject, and he asked for his advice.

The PRESIDENT: We are still fairly successful in our treatment, but they are mostly cases that come outside our own practice. Sometimes a friend asks me to help him, and I never hesitate to do so if I can. I put a great deal of our success down to the fact that we have an excellent blacksmith, who removes the horn as carefully and completely as if he were shaving himself. If the trouble is confined to the sole you can manage it easily, but if you get it up the wall to the coronet it is very often not worth treating. I do not know what it is to fail if it is only in the sole. We vary our dressing: sometimes the hot iron, and sometimes nitric acid put on very carefully, just smeared over lightly, will be found effective; five minutes after applying the acid the surface is scraped. Some people believe in tar and formalin (7 to 10 per cent. of formalin in tar), and I agree that that is a very good dressing. Others use the various sulphates with tar. The only three agents I have been successful with, besides the iron, are corrosive sublimate, nitric acid, and formalin.

Major CARLESS: Any particular shoe?

The PRESIDENT: No. You can dress your foot better with the shoe off. I dress it every other day at first, and then once a week. As to the time in curing, if the disease extends up the wall it takes a long time; but if it is only in the sole you can say within a fortnight or so that the horse is cured. It may take a little time longer to recover fit for work again, but the canker is cured. It is not a subject I have any difficulty with, unless there has been any damage caused by previous treatment, such as over-cauterizing. Apart from such mishaps, a certain cure is my own experience.

Mr. YEOMANS asked if, in Mr. Malcolm's opinion, arsenic was of any value.

The PRESIDENT did not think arsenic was of any use for the internal treatment of canker.

Mr. YEOMANS said he gave arsenic in one case and the patient got well, but he would not state that it was the arsenic that did it.

The PRESIDENT: There may be other agents that will cure canker, but I have only mentioned the three things which I know to be effective. Canker is as easily cured as any other disease, but it can't be done at the farm. Bring the patient to your own yard and see that everything is properly attended so.

Supernumerary digits. Mr. PEMBERTON produced a foal's leg with three distinct hoofs to it.

Foreign body (wood) in a horse's leg. Mr. PEMBERTON also exhibited a large piece of wood which he had extracted from the leg of a horse. The animal fell on its haunches while approaching a pond, and he got the wood out some time later. It appeared to be a piece that had snapped off a stake. The members agreed that it was an exceptionally large piece.

LESIONS OF TUBERCULOSIS IN HORSES.

Mr. ISON produced bones from a mare, being part of the femur, the cervical vertebræ, and a rib. The animal was a trapper, 12 years old. He first saw the animal last April, when the symptoms were not very distinct, except that she was not doing as well as she ought. He suggested a tonic; she did not come round but gradually got worse, and developed a stiff straddling gait. A little later there was great pain on the back bone when she was backed, and there was also difficulty in urination. He could not find anything wrong with her by an external examination. She went on in this fashion for another month, gradually getting

worse, and when in her box would rest her nose on the manger, as if she had the headache. He tried the tuberculin test and there was a distinct reaction.

Post-mortem examination revealed the bones in the condition now shown. In addition there was a large tumour in the spleen almost as large as a man's head, and one or two small ones. There were little abscesses as big as peas in the liver, but nothing wrong in the lungs. The lymphatic glands were also big. He sent the tumour to the College for examination, and the report was tuberculosis. What he wanted to know was whether the condition of the bones was due to tuberculosis or to some other condition? Practically all the bones were the same. A suggested explanation was osteo porosis. He could get no history of the mare, except that she was said to have always been delicate. Still, she did her work well.

The PRESIDENT recalled a similar case within his own experience. It was one of the first, if not the first, that Professor M'Fadyean ever had. That was a case of tuberculosis of the vertebræ.

Mr. ISON: It is not uncommon, I believe, for the bones of the vertebræ to be affected in this way. But in this case, practically all the bones in the body were affected in the same way.

The HON. SEC. said he had met with several cases in which the bones were affected. He described a particular case in which the patient was supposed to be suffering from the effects of an accident. It reacted to the tuberculin test, and Sir John M'Fadyean's verdict was that it was a very bad case of tuberculosis.

The PRESIDENT said he had had marked cases of tuberculosis in horses in which the bones were not affected.

Fractured first rib. Mr. ISON exhibited two post-mortem specimens of broken first rib. He diagnosed the trouble correctly from the way in which the animal moved.

Worms in a puppy. Mr. PEMBERTON described an extraordinary case of worms in a puppy, a specimen of which he produced in a bottle. The puppy was only six weeks old at the time, and the wonder was where it had got so many from, considering it was suckling.

The PRESIDENT said, in regard to the great prevalence of worms in dogs, that he had ninety post-mortem examinations made on dogs, and eighty were found to be suffering from worms.

A fractured metacarpal. Mr. YEOMANS produced a fractured metacarpal of a cart horse. The animal was being treated for canker. There was some reluctance, but no inability on the part of the animal to bear its weight. He diagnosed a broken leg as the result of an examination, and this was the post-mortem result. (A fracture in such a way as to enable the two parts to remain together).

BRAIN TROUBLE IN HORSES.

Mr. WOODWARD produced two post-mortem specimens of brain tumour in horses, and apologised for the imperfect condition in which he exhibited them, due to the shaking up they had received in the taxi. coming to the meeting. He described the cases in detail.

The HON. SEC. also exhibited an interesting specimen. The horse had given no trouble until one morning it was found to be very excited, and colic was suspected. He discerned symptoms of brain trouble. The animal was very violent at first, but became quieter later on and died without a struggle.

Mr. BROOKE: A case of my own, which happened about a week ago, may be of interest. The subject was an aged cart gelding, the owner of which, when he called me in was afraid of tetanus. The animal had worked the day previous, and when standing showed a little staggering, but soon recovered. I found him standing loose in a large stall, which had been roped off from the adjoining one. His breast was in contact with the rope, at which he occasionally made a feeble attempt to rear. Pulse, respiration and temperature were normal. When spoken to he paid no heed, and I found later that the senses both of sight and hearing were absent. When pushed he made no attempt to move, and to test the sensibility of the sensory nerves I tapped the side of the nose, at first gently, and then gradually increased the force until a fair blow was given, but to this the animal was not sensitive, and similar treatment of the ears evoked no response. The breathing was stertorous, as though asleep, and the jaws could not be separated for more than ¾ inch. The skin was dry. Later in the day the horse fell and was destroyed by pithing.

A post-mortem examination made the following day showed lesions in no other organ but the brain. On removing the dura mater covering the left cerebral hemisphere, a long band-like clot was found, about an inch wide, yellow in colour, except at its under and central part, which was in about a dozen spots stained with blood, no doubt the site of the extravasation. This stretched from before to behind for nearly the full length of the hemisphere. The sulci were engorged with blood over the whole surface, including the base of the brain, the posterior two-thirds of which was more deeply congested, showed two patches of a greyish-green colour, which were apparently necrotic, and gave off a very disagreeable odour, although the body heat had not disappeared. The vessels composing the circulus arteriosus and its branches were, on the left side, filled with hard clot, and when picked up with the forceps, were found to be rigid and could be raised from the surface in a piece. No growths were present in the lateral ventricles, nor was fluid found in any part.

DETACHED BONE.

Mr. WOODWARD showed a small piece of pedal bone which had become detached. He treated the horse for punctured foot, and when he cut down, the piece of bone produced came away. The horse was soon sound again.

The PRESIDENT recalled a similar case. He treated the animal and it got well and went back to work, but fell lame again. It was then that the piece of detached bone came away.

UNDIAGNOSED—NO P.M.

The HON. SEC. brought another curious case before the meeting. Some three or four weeks ago he was consulted by a client about an aged horse which had been in their possession about twelve months. The horse-keeper noticed it was not feeding properly, and he applied some liniment to the throat, put in on sloppy food and gave it some medicine. That had been going on for a fortnight when he (Mr. Dawes) was called in. The walls of the box were smothered with food. He examined the horse and the conditions seemed normal. The horse was fed in his presence, and sometime after it began to strike out in agony, and then throw up a lot of food—this action accounted for the state of the walls. He was puzzled about it, and the horse was taken to his yard the following day, when he had it under observation for some time. He noticed nothing wrong, and it was fed with hay, which it swallowed without difficulty and there was no dilatation of the œsophagus. About ten minutes later the horse was in terrible agony, and the food was returned in pieces almost the shape of a corkscrew. He could find nothing wrong with the throat. He told the owner he did not think the horse would do any good, and it was slaughtered, but un-

fortunately he had no opportunity of making a post-mortem examination. Although it was fed on hay at his yard, although it had only had hay there, the vomit also contained oats, which made the mystery all the greater. He had never seen anything like it before, and he did not know what it was.

Mr. PEMBERTON said he once had a similar case, and the post-mortem revealed a false pouch on the side of the œsophagus, and it became full and so caused the trouble.

Mr. BROOKE asked how long this had been going on before Mr. Dawes saw his patient, and the reply was about three weeks. Mr. Brooke: It rather suggests some trouble in the œsophagus.

Mr. CORMACK suggested gastritis.

Mr. DAWES said it was not that.

Mr. PEMBERTON said he once had a case of gastritis in which the patient would eat and then vomit, but there was no mistaking the symptoms.

CASES OF POISONING.

Mr. MARTIN read the following extract from a letter from a neighbouring practitioner :—

"I have a horse of my own that I think is poisoned. He had been running out a month or six weeks and was found showing symptoms of colic. He seemed very little amiss at first, and even ate a little. He may live through the night, but don't think it can be much longer Unfortunately, I lost three good cart horses at the beginning of June in exactly the same way. They all showed the same symptoms alive, and the post-mortem symptoms were the same. The stomach and small intestines were full of gases and fluid, and very much inflamed. The large bowels contained dry hard matter, though all were at grass. After they are noticed amiss the bowels never act, and they won't drink water. They live for about four days. To begin with, the temperature, pulse and respiration are normal. In about 40 hours the pulse begins to fail, and they gradually sink.

If you are not too busy I thought you would like to run over and see this horse alive. If I send the concontents of the stomach and intestines for chemical analysis, I don't suppose they will find anything. I I expect it will be dead, but I won't open the carcase till you come."

Mr. MARTIN added that he saw the horse and found the conditions exactly as described. The contents of the stomach were sent to the College, and he had since received another letter from his friend, who wrote :—

"I received Dr. Lander's report yesterday. It is very disappointing. He says he can detect no poison whatever, neither vegetable nor mineral, and suggests it may be some bacterial poison. But if so, how is it only horses are affected? I have taken all the horses up, and I hope the trouble will stop."

Mr. PEMBERTON: Is there any sewaage in the field?

Mr. MARTIN: No. It is in the open country with a stream running through the field.

Mr. CORMACK mentioned two cases of privet poisoning. The first case ended fatally, and he had some difficulty in persuading the owner that privet was the cause of the poisoning. But at the post-mortem, he found distinct evidence of the branches of the plant, and he also saw the place in the field where the animal had eaten.

The other case was that of an aged cob which had been turned out in a field for the night and the owner drove it into the city in the morning. While in town, it looked rather distressed and began to heave at the flanks. It vomited, and the temperature was subnormal with the pulse weak and accelerated. Having had several cases of vomiting, he would not be rash in forming his diagnosis. First, the pony vomited food, and later on nothing but mucus. The pony recovered. He asked if there were any poisonous plants in the field, such as nightshade or yew, and was told not, but upon enquiring himself, a woman told him the pony had been eating at a privet hedge, and he saw for himself where it had done so. That case showed him that a horse would recover if it had not eaten too much of the material.

Mr. MARTIN mentioned a case of sudden death, an enquiry into which showed that a large copper had been placed in a field and the bottom had come out. The ground near by was discolaured, and the post-mortem symptoms clearly showed copper poisoning.

A MILK SUPPLY PROBLEM.

The PRESIDENT related two incidents that had come under his notice as chief veterinary officer of the Birmingham Corporation. A dairy near Evesham was supplying milk deficient in fat, and in solids not fat. The matter was brought before the Committee, who hesitated about taking proceedings without inquiry, so they sent him down to make enquiries. He was able to solve the mystery, which was due to three factors. First, the farmer was short of roots, had little or no grass and only a little hay. It is said one cannot alter the constituents of milk by feeding, but that is contrary to his experience. Second, there were a number of calves on this farm, and the calves were allowed to strip the cows after milking, with the result that the calves were getting all the cream that should have gone to Birmingham. Third, milking at irregular intervals: the farmer promised to milk at regular intervals, and to prevent the calves stripping the cows, and as the grass had grown by this time, the result was quite satisfactory.

In the second case, samples taken from one of the best dairy farms showed a deficiency in fat and in solids not fat. There were great differences in the milk. One churn would be very rich in fat and the other just the opposite. He went down to investigate. The samples were taken in the first fortnight in August. which was very dry and the grass was then very dry—like hay, which explained matters, so far as the solids and fats were concerned. The farmer started feeding his cows on vetches and the result was satisfactory. With regard to the fats, the farmer being short of labour, had introduced a milking machine, but the animals were stripped by hand. The milk from the machine and the hand milking was put into different churns, which accounted for the difference in the state of the milk. The farmer was doing nothing wrong intentionally, and so the Birmingham Corporation, instead of prosecuting him, showed him his mistake and advised him to mix the milk from the machine and the strippings, as a result the whole trouble was rectified.

A most interesting afternoon concluded with the usual tea.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1916 to the College funds :—

Hubert Gillmor, Ayr (1916, 1917)	£2	2	0
W. A. McGregor, Ayr " "	2	2	0
E. Lloyd Siddall, Opotiki, N. Zealand (1916, 1917)	2	2	0
M. Twomey, Macroom, Co. Cork	1	1	0
Previously acknowledged	830	6	6
	£837	13	6

Relief Staining for Bacteria.

Mr. T. H. C. Benians, F.R.C.S., Pathologist to the Prince of Wales's General Hospital, Tottenham, writing to *The British Medical Journal* of Nov. 25, says:—

"I have devised a rapid and simple process to obtain a uniform blue field from which the unstained organisms stand out in sharp relief. The depth of colour may be varied from a pale grey to a deep blue-black, being rather deeper around the edge of the organism. The whole process occupies only a few moments.

A small drop of a two per cent. aqueous solution of Congo red is placed on a slide, and a very small quantity of the bacterial culture, or of the exudate to be examined, is rubbed into it with the platinum wire; the drop is then spread out into a tolerably thick film either with the wire or by means of another glass slide. The film, an opaque blood-red, is allowed to dry; the slide is then washed over with a one per cent. solution of HCl in absolute alcohol and dried in the air, or with blotting paper, although the latter is apt to tear the film. The film is then ready for examination with the oil immersion lens. It is possible to apply the process to a film which has been already spread and fixed on the slide, by spreading the Congo red gently over it, drying, and treating with acid, as described above.

Under the 1/12 in. lens the background may show an extremely fine stippling, but as a rule it will be quite uniform. Either natural or artificial light may be used, but it needs to be fairly strong, especially if a thick part of the film has to be examined.

Broth and salt solutions do not form a satisfactory mixture with the Congo red, and emulsions in these fluids ought first to be thrown down in the centrifuge. Serous exudates mix readily and evenly with the dye. Blood is not so satisfactory, but except for osmotic changes in the red cells, useful preparations of the blood fluid, and its cellular contents may be made; the films should be spread quite thinly. Urinary deposits and fæcal material may both be examined by this method; in one fæcal specimen I examined, large numbers of spirochaetes of various types were present. Bacteria vary somewhat in their relation to the dye; mostly they are clear, sharp and quite transparent, but a certain number of them will take up the dye and appear as ill-defined, bluish-black bodies; this I have noticed chiefly in old cultures of Gram-negative organisms. Some cocci show a dark central spot, and in the case of many of the *coli*-typhoid type of bacilli a similar round dark spot is seen toward each pole, or more often a dark rod-shaped area running down the centre of the bacillus. Somewhat similar appearances may be seen with Indian-ink preparations; it is impossible to say whether they represent nuclear bodies or some irregularities of external contour which have caught and held the dye.

It may be claimed for this method that it has certain definite advantages over other relief staining methods, in that it can be freshly made up with bacterium-free water; and that it gives a clean and even background, which has very little tendency to form cracks and fissures. I have not been able to test its value in photomicrography, but where a clear sharp outline of the organism is required I should judge it could be used with the best of results.

Personal.

MURRAY—GARDEN. At Lumsden, Aberdeenshire, on Nov. 30th, by the Rev. Thomas Laing, Robert Murray, M.R.C.V.S., Rugely, Staffs., to Jeanie, daughter of the late Robert Garden, J.P., Lumsden.

BROOME—JORDAN. On Dec. 6th, at St. Martin-in-the-Fields, by the Rev. C. Hamilton, Capt. John Dunbar Broome, A.V.C., younger son of Mrs. and the late W. S. Broome, Esq., of Lewisham, S.E., to Catherine Elizabeth, only daughter of Mr. and Mrs. H. S. Jordan, of Wembley, Middlesex.

ARMY VETERINARY SERVICE.

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, Dec. 9.

MILITARY MEDALS.

The King has been graciously pleased to award the Military Medal for bravery in the Field to the following:—

Pte. (actg. Sgt.) J. Denyer, S.E./1728, A.V.C.

REGULAR FORCES. ARMY VETERINARY CORPS.

Dec. 8.

Temp. Capt. G. D. Norman to be temp. Major whilst holding the appmnt. of A.D.V.S. (Nov. 16).

Dec. 9.

Temp. Capt. T. C. Howatson relinquishes his commn. on termination of contract (Nov. 26).

Temp. Lieut. to be temp. Capt.:—A. W. N. Pillers (Nov. 25).

To be temp. Lieut.:—M. J. Killelea (Nov. 27).

Dec. 12.

Temp. Lieuts. to be temp. Capts.:—H. L. Somers, J. F. O'Grady (Nov. 29.)

Temp. Lieut. C. McL. McNeill relinquishes his commn. on acct. of ill-health (Dec. 13).

Temp. Lieut. M. B. Steele relinquishes his commn. on term. of contract (Dec. 13).

Dec. 14.

Capt. C. H. Hylton-Joliffe, F.R.C.V.S., Res. of Off. to be temp. Maj. whilst empld. as A.D.V.S. of a Div. (May 11) (substituted for the notification in the *Gazette* of Aug. 17).

Temp. Capt. W. C. Quinnell to be actg. Maj. (Nov. 27).

Temp. Lt. to be temp. Capt.:—H. G. Bowes, F.R.C.V.S. (Jan. 17) (substituted for notification in the *Gazette* of Feb. 24).

To be temp. Lt.:—H. Hicks (Dec. 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Dec. 8.

Lieut. B. W. Blomfield relinquishes his commission on account of ill-health (Dec. 9).

Dec. 9.

Lieuts. to be Capts.:—J. D. McGregor (Nov. 15); J. L. Taylor (Dec. 2).

Lieut. J. W. Tait relinquishes his commn. on account of ill-health (Dec. 10).

CANADIAN A.V.C.

Dec. 13.

To be temp. Lieut.:—Sgt.-Maj. W. J. Prinn (Nov. 28).

SOUTH AFRICAN V.C.

Dec. 11.

To be temp. Capt.:—W. A. Dykins (April 26, but with seniority from Jan. 8, 1915).

Dec. 12.

To be temp. Capt.:—M. Cunningham (May 8, seniority from Nov. 1, 1914)

The following casualties are reported:—

WOUNDED—Act.-Sgt. J. J. Scott, 2631, Selkirk.
DIED—Sgt. F. D. Moss, 17/146, N.Z. Vety. Corps.

Beef from South Africa.

Mr. Harold Hart had on show and sale at 120 Central Markets, on Tuesday, a consignment of prize beef from South Africa. The beef was from cattle that had obtained prizes at the Johannesburg Fat Stock Show in September last, and had been shipped on the *Walmer Castle* by the South African Meat Export Co. For some time the breeders and feeders in South Africa have been doing good work in grading up their cattle, and the continuous improvement in the quality of their shipments has been very striking. This last delivery has far surpassed all previous lots in point of quality and finish. Like all prize show beef, it is on the heavy side, not too fat for the ordinary London butcher, but the consignment conclusively proved that our South African friends are working on the right lines.

The quarters weighed 230 to 240 lbs.; the butchering was good, but still left room for improvement, and the handling en route had not been as perfect as it might have been. The beef sold at 6s. 7d. per stone (8 lb.) for hinds and 5s. 2d. for fores.—*M.T.J.*

Cattle Breeding—Government Subsidy.

Mr. K. J. J. MacKenzie, reader in agriculture in the University of Cambridge, and director of the university farm, in the course of an interesting lecture upon "The Improvement of Cattle Breeding in Great Britain," on Monday evening, before the members of the Surveyors' Institution, Westminster, stated that under a new scheme the Government were subsidising bulls all over the kingdom, If the experience of the work of the pedigree breeders of the past was to be of avail the results of the experiments should be systematised. Mr. MacKenzie suggested that the following scheme of investigation should be carried through.

All the calves got by the subsidised bulls should be branded, and their identity established by tatooing. Records, where possible, should be taken of their dam's performances at the pail, of their age, size, etc., or, anyhow, particulars of as many of the calves as possible should be so recorded, and their performances eventually tabulated. To trace the performances of branded calves, frequent exhibitions of this stock should take place. At these exhibitions weights should be ascertained; in the case of store steers some of the prize-winners would have to be purchased, and placed under conditions where careful records could be kept of the food required to maintain and to "finish" them.

Again, exhibitions would be held for the fat stock so kept under observation, as well as for those left on the farms, and the meat salesman might be brought in to give his opinion of the finished result. In the case of the heifer calves further information as to their milking qualifications should, in the process of time, be obtained by means of milking trials, butter tests, etc.—*The Daily Telegraph.*

"The fly's proboscis is more successful in retarding the progress of civilisation and the alleviation of human suffering than all the armaments of our most Christian Powers."—E. Hindle, in "Flies in relation to Disease."

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended Dec. 9	14	15			1	1	47	86	34	53	22
Corresponding week in 1915 ...	10	10	1	1			31	46	15	76	207
Corresponding week in 1914 ...	13	15			2	2			10	78	375
Corresponding week in 1913 ...	12	13			2	44	44	78	5	74	602
Total for 50 weeks, 1916	523	622	1	24	47	115	2027	4417	318	4164	9083
Corresponding period in 1915 ...	556	622	56	702	48	84	‡839	‡1798	216	3852	16229
Corresponding period in 1914 ...	692	755	24	124	96	281	1530	2642	203	4221	38717
Corresponding period in 1913 ...	560	614	1	23	150	389	2287	4479	197	2461	30560

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—London 1

Board of Agriculture and Fisheries, Dec. 12, 1916 Excluding outbreaks in army horses.

IRELAND. Week ended Dec. 9	...	...	...	...	...	...	Outbreaks 1	28	5	52
Corresponding Week in 1915 ...	...	...	...	...	...	...	...	12	6	10
Corresponding Week in 1914 ...	...	...	...	...	...	...	1	5	3	9
Corresponding Week in 1913 ...	...	...	...	...			...	16	...	13
Total for 50 weeks, 1916 ...	3	7	...	...	...	...	61	454	304	1816
Corresponding period in 1915 ...	2	2	...	...	1	3	68	398	243	1349
Corresponding period in 1914 ...	1	1	76	957	...	...	76	467	190	951
Corresponding period in 1913 ...	...	...	...	...	1	1	112	511	132	876

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 11, 1916

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection